

Application No.: 09/421,971

Attorney Docket No.: SALK2350

Filing Date: October 20, 1999

(088802-5351)

Response to Office Action (mailed February 8, 2005) faxed April 8, 2005

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**Amendments to the Claims/Listing of Claims**

Please amend claims 1, 5-11, and 13-14 as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A chimeric protein comprising[[:]] a fusion of at least two functional protein units,

wherein each functional protein unit comprises a ligand binding domain, an optional hinge domain, a DNA binding domain, and a dimerization domain of a member of the steroid/thyroid hormone nuclear receptor superfamily;

wherein said at least two functional protein units are covalently fused into a single polypeptide molecule by (i) fusion of said protein units, or (ii) use of a linker interposed between said protein units;

**wherein at least one functional protein unit is selected from the group consisting of the retinoid X receptor and the *ultraspiracle* protein;**

**wherein the other functional protein unit is selected from the group consisting of ecdysone receptors, Vitamin D3 receptors, retinoic acid receptors, peroxisome proliferator-activated receptors, thyroid hormone receptors, steroid and xenobiotic receptors, farnesoid X receptors, and liver X receptors; and**

wherein said chimeric protein is capable of at least one function selected from the group consisting of DNA binding, ligand binding, transactivation and dimerization.

2. (Previously presented) The chimeric protein according to claim 1 wherein said chimeric protein forms an endodimer.

3-4. (Cancelled)

5. (Currently amended) The chimeric protein according to claim 1 wherein at least one ~~dimerization domain~~ **functional protein unit** is non-mammalian.

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6. (Currently amended) The chimeric protein according to claim 5 wherein the at least one ~~dimerization domain~~ functional protein unit is from an insect species.

7. (Currently amended) The chimeric protein according to claim 1 wherein at least one functional protein unit comprises ~~the dimerization domain of~~ an ecdysone receptor.

8. (Currently amended) The chimeric protein according to claim 7 wherein the ~~dimerization domain of an~~ ecdysone receptor comprises ~~the dimerization domain of a~~ *Drosophila* ecdysone receptor.

9. (Currently amended) The chimeric protein according to claim 7 wherein the ~~dimerization domain of an~~ ecdysone receptor comprises ~~the dimerization domain of a~~ Lepidoptera ecdysone receptor.

10. (Currently amended) The chimeric protein according to claim 7 wherein the ~~dimerization domain of an~~ ecdysone receptor comprises ~~the dimerization domain of a~~ *Bombyx* ecdysone receptor.

11. (Currently amended) The chimeric protein according to claim 5 wherein at least one functional protein unit comprises the ~~dimerization domain of the~~ *ultraspiracle* protein.

12. (Cancelled).

13. (Currently amended) The chimeric protein according to claim 1 wherein at least one functional protein unit comprises the ~~dimerization domain of the~~ retinoid X receptor.

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14. (Currently amended) The chimeric protein according to claim 1 wherein the steroid and xenobiotic receptor functional protein units are ~~independently~~ selected from the group consisting of ~~glucocorticoid receptors, mineralocorticoid receptors, estrogen receptors, progesterone receptors, androgen receptors, Vitamin D3 receptors, retinoic acid receptors, retinoid X receptors, peroxisome proliferator-activated receptors, thyroid hormone receptors, and steroid and xenobiotic receptors, farnesoid X receptor, pregnenolone X receptor, liver X receptor, SXR, PXR, and BXR.~~

15. (Original) The chimeric protein according to claim 1 wherein the linker contains from about 5 to about 245 amino acids.

16. (Original) The chimeric protein according to claim 15 wherein the linker contains from about 53 to about 125 amino acids.

17. (Previously presented) The chimeric protein according to claim 15 wherein the linker comprises one or more amino acid residues selected from the group consisting of glycine, proline, serine, alanine and threonine.

18. (Previously presented) The chimeric protein according to claim 15 wherein the linker comprises the amino acid sequence of SEQ ID NO:15.

19. (Original) The chimeric protein according to claim 3 wherein one or more protein units further comprise a C-terminal domain.

20. (Original) The chimeric protein according to claim 3 wherein the DNA binding domains of one or more protein units comprise 66 to 68 amino acids, including 9 cysteines.

21. (Original) The chimeric protein according to claim 3 wherein the hinge domain of one or more protein units is the *Bombyx* hinge domain.

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22. (Original) The chimeric protein according to claim 1 wherein one or more protein units further comprise an activation domain.

23.-60. (Cancelled).

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